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(12) **United States Patent**  
**Kassem et al.**(10) **Patent No.:** US 9,636,070 B2  
(45) **Date of Patent:** May 2, 2017(54) **METHODS, SYSTEMS, AND DEVICES FOR MONITORING AND DISPLAYING MEDICAL PARAMETERS FOR A PATIENT**(71) Applicant: **DePuy Synthes Products, LLC**, Raynham, MA (US)(72) Inventors: **Salim Kassem**, North Attleboro, MA (US); **Nicholas Baruch**, North Smithfield, RI (US); **Kenneth Creasy**, Lakeville, MA (US)(73) Assignee: **DePuy Synthes Products, Inc.**, Raynham, MA (US)

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**A61B 5/0205** (2006.01)(52) **U.S. Cl.**CPC ..... **A61B 5/742** (2013.01); **A61B 5/031** (2013.01); **A61B 5/725** (2013.01); **A61B 5/746** (2013.01); **A61B 5/0205** (2013.01)(58) **Field of Classification Search**

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See application file for complete search history.

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**ABSTRACT**

Methods, systems, and devices are provided for monitoring and displaying medical parameters for a patient. In one embodiment, a display screen can include information related to a physiological parameter being measured from a patient. The information can include a current value based on values of the physiological parameter gathered from the patient over a period of time. The display screen can indicate whether or not the current value is within a predetermined normal range for the physiological parameter and whether or not the current value is within a predetermined goal range for the physiological parameter. The goal range can be nested within the normal range. If the current value moves outside the normal range, an alarm can be triggered. A goal alarm can be triggered if the current value is within the normal range but falls outside the goal range.

**22 Claims, 21 Drawing Sheets**